

A REVIEW ON THE COMPARATIVE ROLES OF MATHEMATICAL SOFTWARES IN FOSTERING SCIENTIFIC AND MATHEMATICAL RESEARCH

Emetere Moses Eterigho¹ & Sanni Eshorame Samuel²

¹Physics Department, Covenant University, P.M.B. 1023, Ota, Nigeria

²Chemical Engineering Department, Covenant University, P.M.B. 1023, Ota, Nigeria

moses.emetere@covenantuniversity.edu.ng

Abstract

Mathematical software tools used in science, research and engineering have a developmental trend. Various subdivisions for mathematical software applications are available in the aforementioned areas but the research intent or problem under study, determines the choice of software required for mathematical analyses. Since these software applications have their limitations, the features present in one type are often augmented or complemented by revised versions of the original versions in order to increase their abilities to multi-task. For example, the dynamic mathematics software was designed with integrated advantages of different types of existing mathematics software as an improved version for understanding numerical related problems for advanced mathematical content (advanced simulation). In recent times, science institutions have adopted the use of computer codes in solving mathematics related problems. The treatment of complex numerical analysis with the aid of mathematical software is currently used in all branches of physical, biological and social sciences. However, the programming language for mathematics related software varies with their functionalities. Many invaluable researches have been compromised within the confines of unacceptable but expedient standards because of insufficient understanding of the valuable services the available variety of mathematical software could offer. In the developing countries, some mathematical software like Matlab and MathCAD are very common. A comparative review for some mathematical software was embarked upon in order to understand the advantages and limitations of some of the available mathematical software.